

**RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
GROUP ART UNIT 2116**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No: 10/820,976
Filed: April 8, 2004
Inventor(s):
James W. Templeton

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Examiner: Sugent, James F.
Group/Art Unit: 2116
Atty. Dkt. No: 5900-00101

Title: METHOD AND
APPARATUS FOR
IMPROVED DC POWER
DELIVERY
MANAGEMENT AND
CONFIGURATON

REQUEST FOR PRE-APPEAL BRIEF REVIEW

Dear Sir or Madam:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reason(s) stated below.

Claims 1-39 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chapuis et al. (U.S. Patent No. 7,049,798 B2, herein referred to as “Chapuis1”) in view of Chapuis et al. (U.S. Patent No. 7,000,125 B2, herein referred to as “Chapuis2”). Applicant respectfully traverses this rejection, and reconsideration of the present case is earnestly requested in light of the following remarks. Please note that for brevity, only the primary arguments directed to the independent claims are presented, and that additional arguments, e.g., directed to the subject matter of the dependent claims, will be presented if and when the case proceeds to Appeal. While the Advisory Action argues that the application has not been placed in condition for allowance because Applicant continues to present the same arguments as before the filing of the Final Office Action with no amendments presented to the claims, Applicant respectfully submits that Applicant’s arguments have not been fully considered.

Applicant therefore respectfully resubmits that the cited references taken together or separately do not teach or suggest a system in which a plurality of digital power management devices are operable to communicate with each other over the control and communication bus to exchange information to coordinate their functions. The Advisory Action reiterates the argument that “coordinating functions” as recited in claim 1 is synonymous with “synchronizing” in order to present a particular order or sequence of events [functions] to carry out, and cites col. 6, lines 36-52 of Chapuis 1 in support. This argument is unsupportable. Nowhere does Chapuis 1 (especially the referenced section noted above) disclose “synchronizing in order to present a particular order or sequence of events [functions] to carry out”. There is no support for this characterization in Chapuis1, or Chapuis2. As Applicant has previously pointed out, the concept of “synchronizing” and/or signal synchronization is well-understood in the art, and it is clear that Chapuis1 uses the term accordingly when it states in column 2, lines 51-55 that “the bi-directional serial data bus is either a two-wire serial bus (e.g., I²C) that allows data to be transmitted asynchronously or a single-wire serial data bus that allows data to be transmitted synchronously (i.e., synchronized to a clock signal)”. One skilled in the art will recognize that “asynchronous data transfer” references data being transferred between devices without the use of a common clock signal, while “synchronous data transfer” references data being transmitted between devices using at least one common (synchronizing) clock signal.

Applicant submits that the term “coordinating functions” as described in the present application is distinct from data transmission. The term “data transmission” pertaining to means of relaying information/data between endpoints. The term “coordinating functions” pertains to means of organizing and/or arbitrating functions of interoperating and/or communicating devices and/or systems with respect to each other. Chapuis1 references synchronous and asynchronous data transfer throughout, in each an every case within its well understood meaning in the art (and as described above – for example, see also Col. 6, lines 25-31, and claims 19 and 20 of Chapuis1). Accordingly, column 6, lines 36-52 merely state that a clock signal is used to synchronize devices, that is, to allow synchronous data transfer between these devices, and offers no teaching or

suggestion for “synchronizing in order to present a particular order or sequence of events [functions] to carry out”.

The capability of power management devices to coordinate their functions is clearly indicative of a power management device being operable to perform functions not only independently of other power management devices, but also in concert with those other power management devices. Applicant respectfully submits that no additional language pertaining to “coordinating functions” is therefore required in the independent claims. Furthermore, claims 4 and claim 22 include further limitations reciting specific functions, the coordination of which would equally be well understood by those skilled in the art. Applicant further submits that the Present Application provides examples and embodiments of the functions and of coordinating the functions, and each of those examples and embodiments is consistent with the common interpretation of coordinating functions.

The Advisory Action again reiterates that Chapuis1 and Chapuis2 teach that exchange of information is taking place between the POL regulators, but indirectly via a controller. However, neither the Advisory Action nor any of the prior Office Actions offers evidence for support of this characterization in Chapuis1 or Chapuis2. As Applicant has previously shown, Chapuis1 explicitly teaches throughout that information exchange takes place between the controller and any given one of the POL regulators. There are NO examples or support in Chapuis1 (or Chapuis2) for information being sent by one POL regulator directly to another POL. There are further NO examples of information being sent by one POL regulator to the central controller, the and the central controller subsequently relaying that information to any of the other POL regulators. POL regulators “exchanging information” implies information being relayed between the POL regulators, whether directly or through a controller. Thus, Applicant has addressed the argument regarding data exchange between POL regulators via a controller, and submitted that neither Chapuis1 nor Chapuis2 offer evidence or teaching for data being exchanged between the POL regulators, directly, or indirectly through a controller.

As recited in claim 1, the digital power management devices are not only operable to communicate with each other over the control and communication bus, but they are operable to do so to exchange information to coordinate their functions. The Final Office

Action argues that Chapuis2 clearly teaches that the “POL regulators communicate with each other over the current share interface” and a “synch/data line may be used to communicate synchronization information to permit phase interleaving of the POL regulators”. Claim 1, however, recites a plurality of digital power management devices that are operable to communicate with each other over the control and communication bus to exchange information to coordinate their functions. It is clear from Chapuis2 that the current share interface is distinct and different from the control and communication bus. Therefore, the argument regarding the current share bus, which is distinct from the control and communication bus, and the transmission of synchronization information (which has been shown above to be completely distinct from coordinating functions) being sent over the synch/data bus is not relevant. Further to the point, it is evident that the specification of Chapuis2 discloses distinct multiple buses coupling selected ones of the POL regulators to each other, in contrast to claim 1, which discloses a single control and communication bus, each bus in Chapuis2 serving a different function.

The passages of Chapuis2 cited by the Final Office Action to argue that the communication between the POL regulators disclosed in Chapuis2 reads on claim 1 are in fact descriptive of current sharing. This current sharing is achieved not over the control and communication bus but over a dedicated current share interface which does not couple all the POL devices together, merely pairs of POL devices, and which is used in addition to the control and communication (synch/data) bus that does couple all the POL devices together (see FIG. 3). It is clear from at least these teachings that the intra-device interfaces (CS1 and CS2) are therefore also clearly distinct from both the OK/fault bus and the synch/data bus, and that the current-share interfaces are not meant to be interpreted as comprising a control and communication bus. Chapuis2 teaches the OK/fault bus and the synch/data bus operating as control and communication buses, and clearly teaches that the current share interface is specifically configured to allow POL regulators to operate in parallel to produce a single output voltage (see column 4, lines 45-57).

Therefore, whether taken singly or in combination, Chapuis1 and/or Chapuis2 do not teach, suggest or anticipate a system in which a plurality of digital power

management devices are operable to communicate with each other over a control and communication bus to exchange information to coordinate their functions.

In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested. If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5900-00101/JCH.

Also filed herewith are the following items: Notice of Appeal

Respectfully submitted,

/Jeffrey C. Hood/

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